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Ajit MISHRA

and

T.C.A. ANANT

Department of  
Economic Studies,  
University of Dundee,  
Dundee.  
DD1 4HN

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# **Activism, Separation of Powers and Development<sup>\*</sup>**

Ajit MISHRA\*\*

Department of Economic Studies, University of Dundee, UK  
( [A.MISHRA@dundee.ac.uk](mailto:A.MISHRA@dundee.ac.uk) )

T.C.A. ANANT

Delhi School of Economics, Delhi, India-110007  
( [a4@vsnl.com](mailto:a4@vsnl.com) )

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\*\* Corresponding author: Department of Economic Studies, University of Dundee, Dundee, DD1 4HN, UK. 44-1382-344372 (ph), 44-1382-344691 (f).

# Activism, Separation of Powers and Development

## Abstract

*We consider a model of constitutional (mechanism) design with separation of powers where different institutions are assigned different tasks. In this context, we define activism as an institution extending its mechanism of decision-making into the domain of other institution's tasks. When members of the institutions are likely to be benevolent as well as non-benevolent, such activism in a limited form reduces the cost of achieving collusion-proofness and raises welfare. Hence the value of such activism can be potentially very high in the context of developing economies. But as the fraction of non-benevolent member increases, such activism turns excessive and reduces welfare. It is argued that developing economies are likely to get caught in the excessive activism trap because of the high levels of corruption and bribery.*

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*“I cannot altogether omit the possibility of a Legislature packed by party men making laws which may abrogate or violate what we regard as fundamental principles affecting the life and liberty of an individual. At the same time, I do not see how five or six gentlemen sitting in the Federal or Supreme Court....and by dint of their own individual conscience or bias or prejudices be trusted to determine which law is good and which law is bad”*

Dr. B.R. Ambedkar in Constituent Assembly Debate<sup>1</sup>

## 1. Introduction

Institutions play an undeniably important role in the process of development. At the same time, as the above quote suggests, framing of suitable institutions involves many trade offs and frictions. In such a context, separation of powers has been seen as a key feature of modern democratic governance. Most constitutions adhere to this doctrine in their designs of institutions (legislative, executive and judiciary). The same philosophy is also reflected in the design of many other organizations like regulatory and enforcement bodies, ministries and governmental departments.

Despite the presence of such well defined institutions, some of these institutions fail to deliver in many cases. This inefficient functioning is perhaps more striking in the context of many developing economies. As is often believed, this could lead to other institutions to step into the functional spheres of these failing institutions and extend their field of activities in a spontaneous manner. In this paper, we address this issue of institutional activism in terms of its origin and consequences.

Separation of powers can be analyzed by exploring its structural as well as functional aspects. From a structural perspective, separation can be seen as a device against regulatory capture and rent seeking behavior. Even though the general idea is not new<sup>2</sup>, it is only recently that economic theorists have addressed this topic using agency theoretic framework. These institutions can be viewed as agencies entrusted with certain tasks. To perform these tasks, they are endowed with some power as well. If too many tasks are given to one agency, then the agency is likely to enjoy greater power also. That would encourage collusive and rent seeking behavior. In a recent paper, Laffont and

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<sup>1</sup> Referring to the debate during the framing of the Constitution of India, Constituent Assembly Debate Vol. 7 page 1000 (Lok Sabha Secretariat, New Delhi)

<sup>2</sup> Laffont (2000) contains a rich and scholarly treatment of these issues. See Moe (1986), Wilson (1980) for earlier contributions. In a similar vein Seabright (1996), Bardhan and Mookherjee (2000) look at regulatory capture in the context of decentralization of power.

Meleu (2001) have modeled separation of powers as an instrument against corruption and have shown that the value of such separation is higher in developing countries. The characteristics of developing countries make separation of powers more desirable but at the same time more difficult to implement.

An alternative route to analyze separation is through the functional interpretation. In this case different decision-making bodies of the State (legislature, executive and judiciary) are endowed with specific powers and are required to carry out different tasks. These institutions differ in terms of operating principles, stipulated objectives and the nature of information processing. Hence different institutions are best equipped to solve different decision problems facing the state, depending on the information requirements and the cost of information processing<sup>3</sup>. For example, the legislature can be thought of as the body best suited to obtaining information on the preferences of the population. Hence it is supposed to enact laws to suit the best interest of the population. On the other hand, for the judiciary, the population preference is not of paramount importance; rather it is supposed to gather judicial information from contesting parties and take decisions which are deemed to be fair<sup>4</sup>. At a different level, the executive can be thought to be in charge of gathering and processing technical, statistical information so as to implement the will of the legislature in the most efficient manner. Hence, according to this interpretation, we are likely to see separation of powers even when there is no rent seeking behavior or collusion possibility.

To study activism, we superimpose the possibility of collusive and corrupt behavior on such a framework. In addition to their own tasks, institutions are granted privileges so that they can have access to information or decision making process of other institutions. In this context, we define *activism as an institution extending its mechanism of decision-making, on the grounds of privilege, into the domain of some other institution*<sup>5</sup>. In many ways, such privileges act as checks and balances. As we shall see,

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<sup>3</sup> This is very similar to the analyses in the law and economics literature of the different choices faced by the state in allocating resources (i.e. property rule vs. liability rule). See Calabresi and Melamed (1972); Kaplow and Shavell (1996).

<sup>4</sup> Some of these differences and their implications have been recently modeled by Maskin and Tirole (2004). They study the optimal allocation of power between accountable and non-accountable branches of the state. See Persson et.al (1997) also for an analysis of separation of powers and political accountability.

<sup>5</sup> This is similar to the definition used in Anant and Singh (2002). The next section discusses their contribution.

activism can raise welfare by reducing the cost of collusion-proofness, but it can turn excessive and can lead to welfare reduction. We take the separation of power structure to be given and try to analyze the nature and consequences of activism by different institutions. Our emphasis on corruption in this context makes our analysis more relevant to the developing economies where corruption has been rampant and has threatened the developmental process.

In a full information complete contracting setup, an ideal constitution would specify all decisions to be taken (in all contingencies). Hence it does not matter who takes those decisions and power is irrelevant. One can depart from this paradigm in two ways. One would be to allow for information asymmetry and control over information by the agency. This way, information rent would be the source of power. The other approach would be to adopt an incomplete contract framework where institutions are given decision rights. We follow the former approach here. Following, Laffont and Meleu (2001) and Laffont and Martimort (1999), we analyze activism in a regulatory framework. Hence, activism in this specific context will refer to the phenomenon of an institution trying to get access to regulatory information of other institutions. We are interested in the positive as well as normative aspects of activism. We try to see when activism is more likely to surface and what its implications for social welfare are.

Our paper is related to at least three different strands of literature. As mentioned earlier, our analysis of activism is related to the recent work on separation of powers by Persson et al. (1997), Dewatripont and Tirole (1999), Laffont and Meleu (2001) and Maskin and Tirole (2004). The basic modeling builds on the regulatory governance literature (Laffont and Tirole (1993), Laffont and Martimort (1999)). Some of the results concerning the welfare properties of activism are related to the literature on collusion (Tirole (1992), Kofman and Lawaree (1993)).

The next section outlines some of these issues based on a brief discussion of judicial activism in India. Section 3 presents the basic model of regulatory design with collusion possibilities. Institutions are viewed as supervisory bodies, each institution having benevolent as well as non-benevolent supervisors. Section 4 contains the main results and analysis of activism. We show that limited activism (activism by benevolent supervisors) raises welfare in some situations. But as corruption level rises the non-

benevolent supervisors also pursue activist policies and this can reduce welfare. Section 5 discusses various interpretations and possible extensions of the basic framework. Section 6 concludes with a few brief remarks.

## 2. Judicial Activism in India<sup>6</sup>

Judicial activism in India has been perceived in certain quarters as a success of constitutional governance, while others have sought to condemn it. This intervention by the courts has taken place in the background of a widespread popular perception that institutions like the legislature and executive branches of the government have not performed efficiently due to the rise of corruption and nepotism. Hence the intervention and activist policy by the Supreme Court has been seen as a welcome relief to many. Our objective is not to debate the merit of such a policy on a case by case basis; we are interested in looking at the general process.

The appearance of judicial activism in India has its origin in the emergence of Public Interest Litigation (PIL) in the late 1970s. These cases saw the Supreme Court enlarge its reach and jurisdiction by both re-interpreting the constitution to expand the scope and content of various fundamental rights, and also, by moderating the ancient requirement of *locus standi* for access to judicial remedies and redress. As a consequence, procedural requirements were eased to enable individuals or organizations to approach the Supreme Court and High Courts on the behalf of those unable to do so themselves - "in the public interest". Typically these cases dealt with gross violation of rights of women and children and the abysmal work conditions faced by poor and bonded labor<sup>7</sup>. However the late eighties and the nineties saw the courts using the PIL for a much larger set of issues involving the environment, the practices of municipal corporations, protection of ancient monuments, fees and admission rules in educational institutions,

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<sup>6</sup> Many developing economies have the opposite problem of non-existent or weak judiciary (legislative activism). Judiciary in India has been traditionally strong and independent. The attention on judicial activism is fairly recent. In the developed economies, judicial activism has been a debated issue in the legal and political spheres. See O'Connor (1997), Allan (1997), Lens (2001) among others.

<sup>7</sup> Among many other cases see, for example, for under trail prisoners: *Hussainara Khatoon v. Bihar* 1979 SC 1360; prison inmates: *Sunil Batra v. Delhi Administration* AIR 1982 SC 1473; women in protective custody: *Dr. Upendra Baxi v. U.P* (1983) 2 SCC 308; Bonded Labor: *Bandhua Mukti Morcha v. India* (1984) 3 SCC 161; Air Pollution in Delhi: *MC Mehta v. Union of India*(1991) 2 SCC 137; Forest Conservation: *TN Godavarman Thirumalapad v. Union of India* (1997) 2 SCC 267. See Ahuja (1997) for a detailed compendium and classification of these cases



selection of Judges, the functioning of politicians and political parties amongst others.<sup>8</sup> In many such instances, courts have sought to prescribe public policy outcomes. This extension of the field of intervention has led to serious public debate on judicial activism in India by politicians, administrators and legal scholars.<sup>9</sup> The practice of courts changing or expanding the interpretation of law has been the subject of extensive debate in legal and philosophical circles.<sup>10</sup> However the expanded domain of the Indian judiciary needs a more elaborate description.

In a recent article, Anant and Singh (2002), using a framework of transactions costs to define a structure of functional separation of powers, describe judicial activism in three forms- *interpretational*, *legislative* and *executive* - each with distinct implications on allocation and efficiency. The classification is based on the character of the activist Judgment. While the first involves novel interpretation of the law and it has been discussed and debated extensively in the context of the appropriate role of the courts, the latter two may need elaboration.

An example of legislative judicial activism is to be found in the famous judgment of *Vishaka vs. State of Rajasthan*. In this case the Supreme Court specified a model law to prevent sexual harassment. This was done to remedy the inadequacy of the existing legal system where the civil and penal law in India does not protect women from sexual harassment in the work place. In the case of *Vineet Narain vs. Union of India*, the court sought to provide an autonomous space for the Central Bureau of Investigation and has outlined through directives the requirement that the Chief Vigilance Commissioner be given statutory status, and proceeded to outline the conditions of service, responsibility etc. In *Malpe Viswanath Acharya vs. Maharashtra*, the court effectively directed the State Legislature to amend the law on rent control as the existing law was found to be imposing unreasonable restrictions on the right to carry on any trade or business guaranteed by the article 19(1)g of the Constitution.

Similarly there have been many instances of the court taking on a more executive role. Thus as part of the *MC Mehta vs. Union of India*, a PIL aimed at reducing vehicular

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<sup>8</sup> In a series of judgments the Supreme Court vested the power of appointment of judges in a collegium consisting of the Chief Justice and four senior judges. Interestingly, this issue was heard as PIL by the Lawyer's Association whose fundamental right to judicial autonomy was being affected.

<sup>9</sup> See Sathe (2002) for a detailed and scholarly analysis of judicial activism in India.

<sup>10</sup> See for instance the discussion in Dworkin (1977) or more recently in Scalia and Gutmann (1998)

pollution in Delhi, the court has issued a number of wide ranging policy directives. These include restrictions on the plying of all old (more than 15 years) commercial vehicles; elimination of leaded petrol from NCT of Delhi; replacement of all pre-1990 auto-rickshaws and taxis with new vehicles on clean fuels; steady conversion of the entire city bus fleet (DTC and private) to single fuel mode on CNG; and safety restrictions on the operations of school buses, advertisements on the side of the road and so on. It is clear that all these relate to the choice of technology, inputs of production, location of bus stations, qualifications and skills of drivers- decisions typically to be made by the executive branch of government<sup>11</sup>.

A fascinating aspect of all these cases is that they take a life of their own, changing petitioners, lawyers and even issues as the case and events develop. In some of these cases, the court has not been free from populist concerns. For example, in the *Common Cause vs. Union of India* or the *Shiv Sagar Tiwari vs Union of India* cases, the court tried to address the issue of abuse of ministerial power in the allotment of goods and licenses. After canceling the allotments, the court went on to levy ‘exemplary fines’ on the public servants but these fines were more of a populist gesture and these were withdrawn later because of questionable legal grounds. Similarly, in the rent control case referred to earlier, the court was held to have acted in the interest of the landlords or the richer sections of the society and hence the court remained silent when the legislature failed to bring about any effective change in the legislation.

The discussion should not lead one to conclude that activism is limited to the Judiciary. Elected representatives have raised issues relating to appropriate support prices for agricultural goods, the interest rates on small savings. Pricing of electricity has found its way into party manifestos. These are examples of the elected representatives concerning themselves with technical executive concerns of pricing.

It is not our case to suggest that these decisions are good or bad, they have been extensively discussed in the policy discussion in India. The issue here is to seek a framework to analyze the process. We wish to point out that the process can encourage activists with their own agenda and affect the long term credibility of the institution.

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<sup>11</sup> Interim orders dated 28<sup>th</sup> July 1998 and 22<sup>nd</sup> Sept. 1998 on Writ Petition (Civil) No. 130295/1985 put in front of the Supreme Court by M.C. Mehta. See Anant and Singh (2002) for a critique.

### 3. The Model

In this section, we consider a very simple and specialized model of activism. The model is not designed to capture the richness of activism described in the previous section. However, we hope to show how some forms of activism lead to welfare increases but once activism becomes an institution in itself the result could be excessive activism and abuse of privileges leading to welfare loss.

Suppose one unit of a public good is to be produced by a firm with private information about its cost and it is to be procured by the constitution (henceforth called the principal). The social benefit from this good is  $G$  and the cost of production is given by  $C = \theta$ , where  $\theta$  is the cost parameter.<sup>12</sup> Firm's cost could be low, medium or high. Let cost parameter be given by  $\theta = \bar{\theta} - (\theta_1 + \theta_2)$ , where  $\theta_i \in \{0, \Delta\theta\}$ ,  $i \in \{1, 2\}$ . Hence, depending on the realization of  $\theta_i$ ,  $\theta$  can take three values,  $\bar{\theta}$ ,  $\hat{\theta}$  or  $\underline{\theta}$  where  $\hat{\theta} = \bar{\theta} - \Delta\theta$  and  $\underline{\theta} = \bar{\theta} - 2\Delta\theta$ . The random variables  $\theta_i$ , are drawn independently from the same distribution so that  $\Pr(\theta_i = \Delta\theta) = v$ . We can interpret  $\Delta\theta$  as favorable cost conditions, and these determine whether the actual cost of production would be low or not.

#### 3.1 Technology

The principal employs politicians/executive/judiciary (henceforth called supervisors) to supervise the firm and obtain information on  $\theta_i$ . There is an independent supervision technology which generates hard information on  $\theta_i$ . The supervisor may observe the favorable condition ( $\Delta\theta$ ), but with some positive probability he may not observe anything ( $\phi$ ). This technology ( *$\zeta$ -technology*) generates signals  $\sigma_i$  with the following probabilities;

$$(1) \quad \Pr(\sigma_i = \Delta\theta | \theta_i = \Delta\theta) = \zeta \text{ and } \Pr(\sigma_i = \phi | \theta_i = \Delta\theta) = 1 - \zeta, \\ \Pr(\sigma_i = \Delta\theta) = v\zeta \text{ and } \Pr(\sigma_i = \phi) = (1 - v\zeta).$$

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<sup>12</sup> This is similar to Martimort (1996). This is a simpler and slightly modified version of Laffont and Martimort (1999), see Laffont (2000) and Tirole (1992) also.

Separation of powers<sup>13</sup> implies that supervisor 1 (called S1) has access to information technology 1 which generates signal  $\sigma_1$  about  $\theta_1$ . Likewise, supervisor 2 (called S2) observes  $\sigma_2$ . Let  $r_i$  denote the report by the supervisor  $i$ ,  $r_i \in \{\varphi, \Delta\theta\}$ ,  $i = 1, 2$ .

Suppose there is another information technology which enables S1 to observe a signal  $\mu$  of  $\sigma_2$ , in addition to signal  $\sigma_1$  of  $\theta_1$ . We shall focus on the asymmetric case where only S1 has access to such technology. The symmetric case is discussed later (section 5.4). We assume that the distribution of  $\mu$  is conditional on  $\sigma_2 = \Delta\theta$ . Assuming S2 to be using the  $\zeta$ -technology, this activist technology (referred to as  *$\rho$ -technology*) has the following property;

$$(2) \quad \begin{aligned} \Pr(\sigma_1 = \Delta\theta | \theta_1 = \Delta\theta) &= \rho \text{ and } \Pr(\sigma_1 = \varphi | \theta_1 = \Delta\theta) = 1-\rho, \\ \Pr(\mu = \Delta\theta | \sigma_2 = \Delta\theta) &= \beta' \text{ and } \Pr(\mu = \varphi | \sigma_2 = \Delta\theta) = 1-\beta', \\ \Pr(\mu = \Delta\theta | \theta_2 = \Delta\theta) &= \zeta\beta' = \beta \end{aligned}$$

We assume that this activist technology leads to some dilution in one's own task, so  $\alpha = (\zeta-\rho) > 0$ .<sup>14</sup> Corresponding to  $\mu$ , the activist report is denoted by  $z$ ,  $z \in \{\varphi, \Delta\theta\}$ . The technological inefficiency associated with activism is captured by  $\alpha$  and  $\beta$ .

### 3.2 Preferences:

The firm's utility is given by  $U(\theta) = t - \theta$ , where  $t$  is the transfer payment by the principal to the firm.

We have two types of supervisors- benevolent (b) and non-benevolent (nb). The principal does not know the type of the supervisor and we assume that there is no screening mechanism to separate the two types. The probability of supervisor S1 (S2) being benevolent is given by  $\delta_1$  ( $\delta_2$ ),  $0 \leq \delta_i \leq 1$ . We shall assume that supervisors are risk neutral. The utility to a supervisor is given by

$$(3) \quad V_i = E(s + aB + cA) \quad a, c \geq 0, a+c = 1, i = b, nb$$

where  $E$  is the expectation operator,  $s$  refers to monetary transfer from the principal,  $B$  refers to bribe income and  $A$  refers to non-monetary benefits ;  $a$  and  $c$  are weights. Non-

<sup>13</sup> We take separation of powers to be given and do not seek to prove its optimality. As has been shown by Laffont (2000), separation of powers can be shown to be optimal in a variety of cases. In the present context, one can assume that the joint observation technology is inefficient compared to separate observation technology.

<sup>14</sup> This is consistent with the separation of powers argument. Moreover, it ties well with the functional separation. The nature of information gathering in the two different tasks is different and there is some benefit to specialization.

monetary benefits are associated only with activist reporting. These can be interpreted as the satisfaction one derives from leaving a legacy or the satisfaction from public adulation and popularity.<sup>15</sup> Benevolent supervisors place zero weight on bribe income. Likewise, non-benevolent supervisors put zero weight on non-monetary benefits.

We shall assume that the good is always desirable. Social welfare<sup>16</sup> is given by

$$(4) \quad SW = G - E(t + s_1 + s_2)$$

Since the good is always desirable, the principal is interested in minimizing the sum of expected transfers to the firm ( $t$ ) and the supervisors ( $s_1$  and  $s_2$ ). We assume the reservation utilities of the firm and the supervisors to be zero. All transfers are non-negative. The principal maximizes (4) subject to the following constraints.

$$(5) \quad U(\theta) \geq 0, V_i \geq 0.$$

### 3.3 Benchmark Case

The principal can achieve the First Best level of welfare when she has full information about  $\theta_i$ . First best level would be obtained by setting  $t = \theta_i$  and expected welfare will be given by

$$(6) \quad SW^{FB} = G - v^2(\bar{\theta} - 2\Delta\theta) - 2v(1-v)(\bar{\theta} - \Delta\theta) - (1-v)^2(\bar{\theta}).$$

In the absence of any information, the principal would always be willing to set the transfer at the maximum ( $t = \bar{\theta}$ ) to make sure that the project goes ahead. Without any supervisory information, there is no mechanism to learn the information about true  $\theta$  since the firm would hide its low cost nature and try to get a higher transfer. Welfare in such a case will be given by  $SW = G - \bar{\theta} < SW^{FB}$ .

Unless it is highly costly to employ supervisors, the principal will benefit from employing supervisors to seek information about  $\theta$ . Suppose the principal is able to obtain truthful reports from the supervisors and the supervisors employ the technology

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<sup>15</sup> This is somewhat similar to the legacy motive in Maskin and Tirole (2004). As they argue, it is not very standard in political economy models but it is quite realistic. We include the popularity aspect also in our case. In the context of our discussion of Judicial activism, we believe that this could be a strong contributing factor, especially because a judgment in the activist mould would be front page news in most national dailies whereas a routine legal judgment is hardly noticed.

<sup>16</sup> We have not included the utility of the firm in the welfare. But it can be done without any change to the results.  $SW = G - (1+\lambda)t + U = G - (1+\lambda)(U+\theta q) + U = G - (1+\lambda)\theta q - \lambda U$ , where  $\lambda$  is the shadow cost of public funds. For  $\lambda > 0$ , we will get similar results.

given in (1). In state  $\sigma_1 = \sigma_2 = \Delta\theta$ , which occurs with probability  $(v\zeta)^2$ , the principal would choose  $t = \underline{\theta}$  and  $U(\underline{\theta}) = 0$ . With probability  $2 v\zeta (1 - v\zeta)$ , we have another state,  $\sigma_i = \varphi$  and  $\sigma_j = \Delta\theta$  where  $i \neq j$ ,  $i, j \in \{1, 2\}$ ; the optimal policy would be  $t = \hat{\theta}$  and  $U(\underline{\theta}) = \Delta\theta$  and  $U(\hat{\theta}) = 0$ . Finally, with probability  $(1 - v\zeta)^2$ , both the signals yield nothing,  $\sigma_1 = \sigma_2 = \varphi$  and the principal would choose  $t = \bar{\theta}$ ,  $U(\bar{\theta}) = 0$ ,  $U(\hat{\theta}) = \Delta\theta$  and  $U(\underline{\theta}) = 2\Delta\theta$ . Whenever the principal is not fully informed, the firm gets a rent with positive probability (depending on the type). Since supervisors' reservation utility is assumed to be zero, the principal would set  $s_i = 0$ . The second best level of welfare is given by

$$(7) \quad SW^{SB} = G - (v\zeta)^2(\bar{\theta} - 2\Delta\theta) - 2v\zeta(1 - v\zeta)(\bar{\theta} - \Delta\theta) - (1 - v\zeta)^2(\bar{\theta})$$

### 3.4 Collusion

Only supervisors observe signals  $\sigma_i$  and they are supposed to report the signals to the principal. They derive their power from being able to manipulate this information. In our case, this ability is somewhat limited by the hard nature of this information. The supervisor can only hide information but is not able to distort it in any other way. The supervisor, having learnt about the favorable cost condition, can always claim to have learnt nothing.

As can be seen from the previous analysis, whenever  $\sigma_i = \Delta\theta$  and the supervisor reports  $r = \varphi$ , the firm<sup>17</sup> gains  $\Delta\theta$ . Hence the supervisor and the firm can collude-firm bribing the supervisor for a null report. As is standard in the literature, we assume that the supervisor has all the bargaining power and can appropriate the entire rent. The supervisor makes a take-it-or-leave-it offer, which the firm can accept or reject. However, there is a transaction cost associated with bribery so that a bribe of  $\Delta\theta$  is worth  $k\Delta\theta$  to the supervisor, where  $k < 1$ . If the bribe demand is accepted, the supervisor submits a report which maximizes joint payoffs. Otherwise, the supervisor reports to maximize own payoff. Whenever indifferent, the supervisor reports truthfully.

With the activist technology, we can have collusion between the two supervisors. We assume a similar bargaining environment except that supervisor S1 (S2) makes such

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<sup>17</sup> The gains are additive. If one report is  $\Delta\theta$  and the other is  $\varphi$ , the most efficient firm gains  $\Delta\theta$ . If both reports are  $\varphi$ , the firm gains  $2\Delta\theta$ . Strictly speaking we don't need this additive structure. A more plausible case would be when the gain from two null reports exceeds the sum of gains from null reports by 1 and 2. This formulation is for simplicity.

a take-it-or-leave-it offer with probability  $\frac{1}{2}$  which the other supervisor can accept or reject. This is equivalent to assuming equal bargaining powers. To illustrate, suppose by colluding the supervisors get a joint payoff of  $D$  and failure to collude would give them  $d_1$  and  $d_2$  respectively. Then, in a collusive agreement between the two supervisors,  $S_j$  will get  $d_j + \frac{1}{2}(D - d_1 - d_2)$ . We shall assume that there is no transaction cost associated with this type of collusion.<sup>18</sup>

With activism, three-way collusion between the firm and the two supervisors is also possible. The bargaining rule is similar. Supervisor  $S_1$  ( $S_2$ ) gets to propose with probability  $\frac{1}{2}$  which the firm and  $S_2$  ( $S_1$ ) can accept or reject. Note that in this case, since the firm is involved in the collusion, there is a transaction cost exactly like the first case.

### 3.5 Separation of powers and Collusion-proofness

The game proceeds as follows. (1) A constitution is set up; the principal announces the contract. (2) Nature determines the type of the firm (realization of  $\theta$ ) and the type of the supervisor (benevolent or not). (3) The supervisors choose the technology (activist or non-activist). (4) The supervisors observe their respective signals. Firms learn the type of supervisor(s) and the value of their signals. (5) The firm and the supervisor(s) can collude on a side contract. (6) The supervisors submit their reports to the principal and transfers are implemented according to the original contract.

The contract at stage 1 specifies transfers  $t$  and  $s$  as functions of the reports  $(r_1, z, r_2)$  by  $S_1$  and  $S_2$ ,  $t = t(r_1, z, r_2)$  and  $s_j = s_j(r_1, z, r_2)$ ,  $j=1,2$ . When the principal commits to disregard activist report  $(z)$  and specifies  $t = t(r_1, r_2)$  and  $s_j = s_j(r_j)$ , we shall refer to it as the case of strict separation of powers. In such a case supervisors will choose the non-activist technology.

Note that the principal has to make two sets of decisions (1) whether to allow or induce activism and (2) whether to allow the different collusion possibilities. Both these decisions are related. In the current subsection we shall focus only on the strict separation case.

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<sup>18</sup> One possible explanation for this transaction cost relates to the probable detection of the firm's type at some stage. If  $\theta_j$  were to be discovered, then the principal can investigate and find out that bribery took place between the firm and supervisor  $j$ . If we continue with this interpretation, then collusion between the two supervisors will have no such transaction cost when  $\sigma_2 = \Delta\theta$  and the collusive report is also  $\Delta\theta$ .

The principal can prevent collusion between the firm and the supervisor by stipulating suitable rewards for reporting favorable cost conditions. As discussed earlier, based on truthful reports, the principal would choose the following transfers to the firms,

$$(9) \quad t(\varphi, \varphi) = \bar{\theta}, \quad t(\varphi, \Delta\theta) = t(\Delta\theta, \varphi) = \hat{\theta}, \quad t(\Delta\theta, \Delta\theta) = \underline{\theta}.$$

Given our assumptions regarding bargaining environment, the supervisor gets  $k\Delta\theta$  from colluding with the firm (whenever  $\sigma = \Delta\theta$ ). Hence, a reward of  $k\Delta\theta$  would induce the supervisor to report truthfully;  $s(\varphi) = 0$  and  $s(\Delta\theta) = k\Delta\theta$ . Since the principal is unable to condition transfers on the type of the supervisor, same transfer would be paid to the benevolent supervisor as well. Let  $W^{NC}$  be the welfare under strict separation when there is no collusion.

$$(10) \quad W^{NC} = G - \{(v\zeta)^2(\underline{\theta} + 2k\Delta\theta) + 2(v\zeta)(1-v\zeta)(\hat{\theta} + k\Delta\theta) + (1-v\zeta)^2 \bar{\theta}\}$$

On the other hand, since the benevolent supervisors are going to report truthfully even in the absence of any payment; the principal might prefer to pay no rewards and as a consequence allow collusion between the non-benevolent supervisors and the firm. If there are too many benevolent supervisors ( $\delta$  is high), then such a policy might indeed be optimal. Let  $W^C$  denote the corresponding welfare.

$$(11) \quad W^C = G - [\delta_1\delta_2 \{(v\zeta)^2(\underline{\theta}) + 2(v\zeta)(1-v\zeta)(\hat{\theta}) + (1-v\zeta)^2 \bar{\theta}\} + \{\delta_1(1-\delta_2) + \delta_2(1-\delta_1)\} \{(v\zeta)^2(\hat{\theta}) + (v\zeta)(1-v\zeta)(\hat{\theta} + \bar{\theta}) + (1-v\zeta)^2 \bar{\theta}\} + (1-\delta_1)(1-\delta_2) \bar{\theta}].$$

It can be checked that  $W^{SB} > W^C$ ,  $W^{NC}$ . The welfare loss due to collusion is given by  $(W^{SB} - W^C)$  and the welfare loss due to the cost of preventing collusion is given by  $(W^{SB} - W^{NC})$ . These losses will depend on the benevolence level ( $\delta$ ) and transaction cost associated with collusion ( $1-k$ ). In a developing economy with widespread corruption and poor enforcement we expect  $\delta$  to be low and  $k$  to be high.

#### 4. Activism

According to our earlier definition, activism refers to an institution extending its mechanism of decision-making. This presupposes that the extension by the activist institution is indeed *feasible* and members of the activist institution have the *incentives* to do so. In the present context, feasibility implies that the supervisor has access to the activist technology and the principal does not commit to strict separation of powers.



What constitutes an inducement for a member to be an activist depends on the specific context. It could range from personal commitment to a cause and concern for social welfare to the other extreme case of pure rent seeking. We try to capture this spectrum by considering different values for  $A$  in the supervisor's utility function (3).

Suppose  $A$  is high such that the benevolent  $S1$  does not need any monetary compensation to be an activist. In that case,  $S1$  may receive financial rewards for report  $r_1$  (task), but similar rewards are absent for any report  $z$  (pure privilege). The absence of any incentive payment is one of the critical aspects of activism in this case. This task-privilege interpretation seems suitable for some forms of activism. This would match the popular perception of activism, where activists are always thought to be welfare minded individuals and are committed to the cause of promoting social welfare and not private gains. On the other hand, a regulator might have explicit incentives for the supervisor to oversee another supervisor. In that case activism can be viewed as an additional task. This multi-task situation will be captured by allowing for  $A = 0$ . As a first step we shall be dealing with the privilege interpretation and take up the general formulation in the next section.

#### 4.1 Limited and Excessive Activism:

This section presents a heuristic analysis of the costs and benefits associated with activism. To begin with consider the case where supervisors receive a fixed wage and only transfers to the firm are chosen by the principal. This implies that  $s_i(\varphi) = s_i(\Delta\theta) = 0$  and  $t = t(r_1, z, r_2)$ . Now consider the situation where the benevolent  $S1$  chooses the activist technology. We shall refer to it as a case of *limited activism*.

In this case, the principal can prevent collusion between the firm and non-benevolent  $S2$  whenever  $\mu = \Delta\theta$ . More specifically, the principal can choose transfers to the firm as follows:

$$(12) \quad t(\varphi, \varphi, \varphi) = \bar{\theta}, \quad t(\varphi, \Delta\theta) = t(\Delta\theta, \varphi, \varphi) = t(\varphi, \varphi, \Delta\theta) = \hat{\theta}, \quad t(\Delta\theta, \varphi, \Delta\theta) = t(\Delta\theta, \Delta\theta) = \underline{\theta}.$$

This means that the non-benevolent  $S2$  can collude with the firm less often due to activism by  $S1$ .<sup>19</sup> If  $S1$  is benevolent and successfully observes  $\mu = \Delta\theta$ , then the firm does

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<sup>19</sup> In many ways, these activists can be viewed as whistle blowers. The role of external auditors (activist  $S1$ ) in preventing collusion between the firm and the internal auditor ( $S2$ ) has been examined in the collusion context by Kofman and Lawaree (1993). See Kofman and Lawaree (1996) and Mishra (2002) also.

not gain anything by colluding and the principal does not have to leave excess rent to the firm. Since benevolent S2 will report truthfully in any case, activist reporting by S1 is valuable to the principal to the extent S2 is non-benevolent  $(1-\delta_2)$ . On the other hand, S1's own signal becomes less informative. Hence conditional on  $\theta_1 = \Delta\theta$ , the loss will be  $\delta_1\alpha\Delta\theta$ . Activism by the benevolent S1 will raise welfare iff

$$(13) \quad \delta_1(1-\delta_2)\beta\Delta\theta \geq \delta_1\alpha\Delta\theta \text{ or } \delta_2 \leq 1-\alpha/\beta.$$

This confirms the common perception that limited activism by an institution is likely to be optimal when the level of rent seeking or non-benevolence is high in the other institution. But will benevolent S1 be willing to choose the activist technology? In this case, the benevolent S1 observes  $\sigma_1$  with a smaller probability but that does not affect his utility. Hence, for any  $A \geq 0$ , the benevolent S1 will choose the activist technology. This also means that the benevolent S1 would be inclined to choose the activist technology even when  $\delta_2$  is high. However, as we shall see in the next section, such a case will not arise because the principal can always take away the activist privileges and implement strict separation of powers. In some sense, most constitutions will allow for some form of limited activism of the kind we have discussed above. However, as we shall show the problem with activism begins when individuals choose to be activist for purely private considerations.

The non-benevolent S1 can also choose the activist technology. The non-benevolent S1 can get a share in the total rent of  $\Delta\theta$ , whenever  $\sigma_2 = \Delta\theta$  and  $\mu = \Delta\theta$ ; and S2 is non-benevolent. Using our bargaining rule and (12), it can be checked that non-benevolent S2's expected gain from activism is  $(1-\delta_2)\beta k\Delta\theta/2$ . On the other hand, his expected loss is  $\alpha k\Delta\theta$ . Non-benevolent S1 will choose to be activist if the degree of non-benevolence in the other institution is very high. But these are precisely the cases where activism by the benevolent S1 would raise welfare by reducing the cost of collusion. This means that for lower values of  $\delta_2$  we expect to see activism by both benevolent and non-benevolent S1. We refer to it as a case of *excessive activism*.

Activism by the non-benevolent S1 has no welfare implications in this simple case. Recall that the principal does not benefit from non-benevolent S1's realization of signal  $\sigma_1$  because of collusion. Hence the loss of information due to the activist technology leads to no additional loss. On the other hand, principal does not gain from

activism due to the non-revelation of activist information. Activism by the non-benevolent leads to a *redistribution of rents* with S2 being the loser. This is quite different from activism by the benevolent S1 which leads to *dissipation of rents* whenever condition (13) is satisfied.

This ties well with our discussion in section 2 where we pointed out that a frequently encountered explanation of judicial activism is the high levels of corruption and rent seeking in other institutions like the legislature or the executive. The previous analysis would suggest that reducing corruption and inefficiencies through proper incentives in these branches of governance would reduce the benefit of activism. As we shall see this need not be the case. If these incentives have to be implemented through costly transfers, then activism has a role in reducing costly transfers.

Suppose in the initial constitution supervisors receive positive transfers for reporting  $\Delta\theta$ ;  $s_i(\varphi) = 0$  and  $s_i(\Delta\theta) = k\Delta\theta$ . Following our bargaining rule the non-benevolent supervisor gets  $k\Delta\theta$  by colluding with the firm and reporting  $r = \varphi$ . Hence with these transfers, collusion will not take place. Since the activist S1 can observe a signal of S2's information, the principal can use this information to reduce payments to S2. Suppose transfer payments to S2 are as follows.

$$(14) \quad s_2(z = \varphi \text{ and } r_2 = \Delta\theta) = k\Delta\theta \text{ and } s_2 = 0 \text{ otherwise.}$$

This means that conditional on  $\sigma_2 = \Delta\theta$ , the principal has to pay  $k\Delta\theta$  to S2 with probability  $(1-\beta)$ .

When the benevolent S1 chooses to be activist, the principal would reduce its cost by  $\delta_1\upsilon\beta k\Delta\theta$ .<sup>20</sup> This term does not depend on  $\delta_2$  because both benevolent and non-benevolent supervisors receive the same incentive transfers. Like the previous case, activism would lead to a reduction in welfare as the activist technology is less informative about own signal  $\theta_1$ . Hence the loss in welfare due to the  $p$ -technology will be given by  $\delta_1\upsilon\alpha\Delta\theta(1-k)$ . Following activism by the non-benevolent S1, overall welfare will go up iff

$$(15) \quad \delta_1\upsilon\beta k\Delta\theta \geq \delta_1\upsilon\alpha \Delta\theta(1-k)$$

$$\text{or,} \quad k \geq \alpha/(\alpha+\beta).$$

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<sup>20</sup> We continue to assume that  $A$  is high enough so that benevolent S1 always prefers to be an activist

Hence limited activism is likely to be optimal when transaction costs are low.<sup>21</sup> When  $k$  is close to 1, there is virtually no transaction cost associated with collusion; the cost of preventing collusion is very high and hence activism raises welfare by lowering this cost. Combined with (12) this would suggest that the optimality of activism would depend on the degree of benevolence, size of transaction costs and the efficiency of the activist technology.

Unlike the previous case, activism by the non-benevolent can lead to an overall increase in rent and hence a reduction in welfare. The loss due to activism will be  $(1 - \delta_1)\alpha\Delta\theta(1-k)$ . Using a contract similar to (14), the gain will be  $\delta_2(1 - \delta_1)\alpha\Delta\theta k$ . Notice that the principal is unable to save on the transfer payments when both activist S1 and S2 are non-benevolent. Hence gain is always at the expense of benevolent S2. In this case net gain from activism can be positive for very high values of  $\delta_2$ . However, this is unlikely to happen on two accounts. First, high values of  $\delta$  would mean that rent seeking is limited and there is no need to have a system of transfer payments. Second, the incentive for non-benevolent to participate in activism will still be given by (13) and this implies that  $\delta_2$  has to be low for them to be interested in activism. *Hence, whenever non-benevolent supervisor finds it worthwhile to engage in activism, it is likely to be suboptimal from the principal's point of view.*

Now, let us consider the case where the legacy motive associated with activism is not very strong,  $A$  is small. Since  $\rho \leq \zeta$ , the supervisor is going to get his rewards  $k\Delta\theta$  with a smaller probability. If a report of  $z = \Delta\theta$  does not fetch anything to the supervisor, a non-benevolent supervisor may not be interested in switching to the activist technology. Hence the principal has to induce activism by stipulating positive transfers for an activist report  $z = \Delta\theta$ . The amount of this transfer depends on the value of  $A$ . A formal derivation of this incentive constraint is given in the next section. The implication of this constraint is two fold. First, it makes limited activism less attractive. The principal has to transfer a part of the cost savings to the activist S1. The range of values for which activism is optimal becomes smaller (compared to 15). Second, for extremely low values of  $A$ , non-benevolent S1 will always find it optimal to be activist. The loss from activism is same

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<sup>21</sup> See Laffont and Meleu (2001) for a related argument concerning the value of separation of powers when transaction costs are low. However, in our case, if  $k$  is very high we might not have any collusion prevention and the relevant welfare is  $W^c$ .

for both benevolent and non-benevolent, but the non-benevolent stands to gain more. Hence for  $A = 0$ , activism will always be excessive. The principal can never induce activism by benevolent and at the same time prevent activism by the non-benevolent. In fact the cost of inducement has implications for the policy towards collusion also. We turn to these issues in the next section.

## 4.2 Activism and Optimal Constitutional Design

In this section we discuss the conditions under which the principal would choose to have activism in the optimal contract. This does not mean that actual constitution is being adjusted continuously to different parameter changes, but we want to see to what extent activism features in an optimal constitution. The principal has to make two sets of decisions. First, she has to choose between strict separation of powers and activism. Second she has to choose the extent to which collusion can be allowed in the optimal contract. However, these two sets of decisions are not independent and can not be separated.

Recall that transfers to the firm and the supervisors are given by  $t = t(r_1, z, r_2)$  and  $s = s(r_1, z, r_2)$  respectively,  $r_1, r_2, z \in \{\varphi, \Delta\theta\}$ . We do not consider situations where the activist S1 reports  $\Delta\theta$  and the benevolent S2 reports  $\varphi$ . In the light of our assumption (4), this state can never occur. Moreover, since a non-activist can also submit a null report, it is always optimal to have zero transfer to S1 whenever  $z = \varphi$ . Hence, without any loss of generality, we shall denote transfers to S1 by the two components  $s_1 = s_1(r_1)$ ,  $a = a(\Delta\theta)$ . Likewise, transfers to S2 is given by  $s_2 = s_2(z, r_2)$ .

Depending on whether the optimal contract entails collusion and activism, transfers need to satisfy some subset of the following *no-collusion constraints*. Given the bargaining rule (section 3.4), collusion between the firm and the supervisor can be prevented if the following condition is satisfied.

$$(16) \quad (t(\varphi_1, z, r_2) - t(\Delta\theta, z, r_2))k \leq s_1(\Delta\theta) - s_1(\varphi) \text{ for any given } z \text{ and } r_2$$

$$(17) \quad (t(r_1, z, \varphi) - t(r_1, z, \Delta\theta))k \leq s_2(z, \Delta\theta) - s_2(z, \varphi) \text{ for any given } z \text{ and } r_1$$

Similarly, collusion between the supervisors is prevented if

$$(18) \quad s_2(\varphi, \Delta\theta) - s_2(\Delta\theta, \Delta\theta) \leq a(\Delta\theta)$$

The three way collusion between the firm, supervisors S1 and S2 can be prevented if

$$(19) \quad (t(r_1, \varphi, \varphi) - t(r_1, \Delta\theta, \Delta\theta))k \leq s_2(\Delta\theta, \Delta\theta) + a(\Delta\theta) - s_2(\varphi, \varphi).$$

Note that the three-way collusion refers to report of  $z$  and  $r_2$  only and does not affect the report  $r_1$ .

As discussed earlier, activism leads to  $S1$  observing  $\sigma_1 = \Delta\theta$  with a lower probability. The loss to  $S1$  will depend on the transfers which in turn depend on whether the no-collusion constraints are satisfied or not. Similarly the gain also will depend on whether activist  $S1$  colludes with  $S2$  or not. Fortunately, for the benevolent  $S1$  it is straightforward because of the absence of collusion possibilities. Given our assumptions about technology (1 and 2), a benevolent  $S1$  will choose to be activist iff

$$(20) \quad \alpha[s_1(\Delta\theta) - s_1(\varphi)] \leq \beta[a(\Delta\theta) + A]$$

Given our bargaining rule, a non-benevolent  $S1$  will choose the activist technology iff

$$(21) \quad \alpha \max[(s_1(\Delta\theta) - s_1(\varphi)), k(t(\varphi) - t(\Delta\theta))] \leq \beta\delta_2 a(\Delta\theta) + \beta(1-\delta_2) \max[a(\Delta\theta), (a(\Delta\theta) + s_2(\varphi, \Delta\theta) - s_2(\Delta\theta, \Delta\theta))/2]$$

Inequalities (20)- (21) will be referred to as *incentive constraints*, as they determine the incentives of  $S1$  to be activist.

The principal maximizes  $SW$  in (4) subject to constraints (5) and (16)- (21). Note that welfare under separation is given by either  $W^c$  (10) or  $W^{nc}$  (11) and activism will be evaluated against these. Given our assumptions regarding  $\theta$  and supervision technology, it will suffice to compare welfare in the relevant states only. Before we discuss the optimal outcome, the following lemmas provide useful partial characterizations. The proofs are collected in the appendix.

*Lemma 1: The incentive of  $S1$  to be an activist is independent of the principal's policy towards collusion between the firm and  $S2$*

This enables us to separate the problem of collusion between  $S2$  and the firm from the issue of activism. Hence it is not the case that non-benevolent  $S1$  will be more inclined to choose the activist technology because of the presence or absence of incentive payments to  $S2$ .

*Lemma 2: Let  $\delta_2 \leq 1-k$ , it is always optimal to prevent collusion between  $S2$  and the firm.*

In the absence of activism this is a standard result (Laffont and Tirole 1993). This familiar collusion-proof principle holds in many regulatory settings. We need to show

that this principle holds irrespective of whether the optimal policy entails any kind of activism or not. In the presence of activism, one might expect that the principal can allow some collusion because she can elicit same information from the benevolent activist S1. But the lemma shows that it is not true.

However, notice that we are not making a similar claim about collusion between S1 and the firm. In this case, preventing collusion between S1 and the firm also raises the cost of inducing activism. Hence if the gain from activism is large and  $A = 0$ , we might see collusion even when  $\delta_1 < 1-k$ . This is confirmed later in Proposition 7.

*Lemma 3: It is never optimal to prevent collusion between the supervisors.*

Collusion between S1 and S2 leads to redistribution of transfer payments. The sum of transfers to S1 and S2 is not reduced by preventing collusion between S1 and S2.

*Lemma 4: Suppose it is optimal to prevent collusion between S1 and the firm. Then depending on the nature of the optimal constitution, the set of optimal transfers is given by the following.*

M1 Strict Separation of Powers and No-Collusion:  $t(r_1, r_2)$  is given by (9) and  $s_j(\Delta\theta) = k\Delta\theta$ ,  $s_i(\varphi) = 0$ .

M2: Activism and No-collusion:  $t(r_1, z, r_2)$  is given by (12) and  $s_1(\varphi) = s_2(\Delta\theta, \Delta\theta) = s_2(\varphi, \varphi) = 0$ ,  $s_2(\varphi, \Delta\theta) = s_1(\Delta\theta) = k\Delta\theta$  and  $a(\Delta\theta) = x \Delta\theta$  where  $x = \max \{0, \alpha k/\beta - A/\Delta\theta\}$ .

In case of strict separation of powers with collusion (M1'), it is similar to M1 with  $s_2(\Delta\theta) = 0$ . Likewise, for the activism with collusion (M2'), it is similar to M2 with  $s_2(\Delta\theta, \Delta\theta) = s_2(\varphi, \Delta\theta) = s_2(\varphi, \varphi) = 0$ .

Now, we can state the main result of the paper. In what follows we shall be making a distinction between allowing and inducing activism. When the principal allows activism- it is like a privilege being granted to the members of an institution and  $a(\Delta\theta) = 0$ . Inducement, on the other hand, implies that the principal has to provide positive transfers,  $a(\Delta\theta) > 0$ .

**Proposition 5:** *Let  $1-k, \delta_2 \leq 1-\alpha/\beta$ . The principal will allow (induce) activism if either (1)  $A$  is large and  $\alpha \geq \beta/2$ ; or (2)  $\delta_1$  is high.*

**Proof:** We begin by noting that these are sufficient conditions. The optimal contract could entail activism even when neither condition is satisfied. It will be shown that limited activism can raise welfare when  $\delta_2 \leq 1-\alpha/\beta$  and  $1-k \leq 1-\alpha/\beta$ . This is illustrated in Figure 1. However, this in itself does not mean that the principal would choose to have activism. This would depend on the social cost associated with activism by the non-benevolent and the extent to which the principal can induce activism by the benevolent without inducing activism by the non-benevolent.

(Figure 1)

**Case 1:** Define  $A^*$  to be the value of  $A$  such that the incentive constraint of the benevolent S1 (20) is satisfied for  $a(\Delta\theta) = 0$ . Hence the claim applies to any  $A \geq A^*$ . In addition, the condition  $\alpha \geq 2\beta$  implies that non-benevolent S1's incentive constraint is never satisfied whenever  $a(\Delta\theta) = 0$  (see (40) in the appendix). Hence there is no risk of excessive activism in this case.

For  $\delta_2 \leq 1-k$ , the optimal contract will be of either type M1 or M2. Suppose,  $\delta_1$  is such that it is optimal to have  $s_1 = k\Delta\theta$ . This case has been discussed earlier and limited activism will raise welfare iff (rewriting (15))

$$(22) \quad (1-k) \leq \beta/\alpha + \beta.$$

This is shown as region II in figure 1. On the other hand, if  $\delta_1$  is such that  $s_1 = 0$  is optimal, activism will be optimal iff

$$(23) \quad \beta k \Delta\theta \geq \alpha \Delta\theta \text{ or } 1-k \leq 1-\alpha/\beta$$

Region III represents the values for (23). It is clear that (22) is implied by (23).

For  $\delta_2 > 1-k$ , if  $\delta_1$  is such collusion between S1 and the firm does not take place ( $s_1 = \Delta\theta$ ) then activism is optimal iff

$$(24) \quad (1-\delta_2)\beta \Delta\theta \geq \alpha(1-k)\Delta\theta.$$

This refers to region I in the figure. On the other hand, when  $s_1=0$  the case is identical to the case discussed earlier and activism is optimal iff (rewriting (13))



$$(25) \quad \delta_2 \leq 1-\alpha/\beta.$$

This refers to region IV in the figure. It is clear that (24) is implied by (25).

**Case 2:** Suppose  $A = 0$ . We shall focus only on the case where  $\delta_1$  is such that (16) holds and  $s_1 = \Delta\theta$ . Otherwise the situation is similar to the previous case with  $A \geq A^*$ . First consider  $\delta_2 > 1-k$ . Using lemma 4, the benevolent S1's incentive constraint is satisfied for  $x = \alpha k/\beta$  (see (39) in the appendix). Limited activism will raise welfare if

$$(26) \quad [(1-\delta_2)-\alpha k/\beta]\beta\Delta\theta \geq \alpha(1-k)\Delta\theta \text{ or } \delta_2 \leq 1-\alpha/\beta$$

However, now non-benevolent S1 will also choose to be activist as (21) will also be satisfied. For the non-benevolent S1, there is no welfare gain and the welfare loss will be

$$(27) \quad \alpha(1-k)\Delta\theta + \beta\delta_2(\alpha k/\beta)\Delta\theta$$

Hence overall welfare goes up if

$$(28) \quad \beta\delta_1(1-\delta_2)\Delta\theta \geq (\delta_1 + \delta_2(1-\delta_1))\beta(\alpha k/\beta)\Delta\theta + \alpha(1-k)\Delta\theta$$

$$\text{or,} \quad (\beta-\alpha k)\delta_1(1-\delta_2) \geq \delta_2\alpha k + \alpha(1-k)$$

Now consider  $\delta_2 \leq 1-k$ . Since the value of  $x$  does not change, activism by the benevolent will raise welfare only if

$$(29) \quad \beta(k-\alpha k/\beta)\Delta\theta \geq \alpha(1-k)\Delta\theta \text{ or } 1-k \leq 1-\alpha/\beta.$$

For the non-benevolent however there is now a possibility of welfare gain. Since the non-benevolent can never collude with the benevolent S2 and the latter will always report truthfully, the principal saves on the transfers to the benevolent S2. In this case activism will raise welfare if

$$(30) \quad \beta(\delta_1 k\Delta\theta + (1-\delta_1)\delta_2 k\Delta\theta) \geq (\delta_1 + (1-\delta_1)\delta_2)\beta(\alpha k/\beta)\Delta\theta + \alpha(1-k)\Delta\theta$$

$$\text{or,} \quad (\delta_1 + (1-\delta_1)\delta_2) \geq \alpha(1-k)/k(\beta-\alpha)$$

Clearly, (28) or (30) can only be satisfied for high values of  $\delta_1$ . Note that in this case, activism will always be excessive. But given the high degree of benevolence among activists, the benefit of activism by the benevolent outweighs the costs associated with activism by the non-benevolent.  $\square$

This shows that activism is likely to be the optimal response only when the legacy motive is very strong or the activist institution is populated by benevolent individuals. The following proposition reinforces this point by showing how it is optimal for the

society to forgo the potential benefits of activism by the benevolent because of the threat of excessive activism.

**Proposition 6:**

(i) Suppose  $\delta_1 > \delta_2/(1+\delta_2)$ . It is never optimal to induce (allow) activism by the non-benevolent S1 without activism by the benevolent.

(ii) For low values of  $\delta_1$  and  $\delta_2$ , the principal will choose strict separation of powers even when limited activism is potentially welfare improving.

**Proof:**

(i) In general, activism by the non-benevolent does not lead to any welfare gain. Even if it does (for some parameter values of  $k$ ,  $\delta_2$ ,  $\alpha$ ,  $\beta$ ), activism by the benevolent is also optimal in those situations. For the case  $\alpha \geq \beta/2$ , this is shown in figure 1. Activism by the non-benevolent *can* be optimal in the region V, but it is contained in the region III where activism by the benevolent is optimal. Hence at the optimum we are likely to see either excessive activism or activism by the benevolent.

We shall prove the claim for the case  $1 - 2\alpha/\beta > \delta_2$  and  $A = 0$ . Note that in this case activism by the non-benevolent holds maximum advantage over activism by the benevolent. The non-benevolent S1's incentive constraint is satisfied even when  $x = 0$  and the benevolent S1's constraint is not satisfied unless  $x = \alpha k/\beta$ .

Consider  $\delta_2 < 1-k$ , otherwise activism by the non-benevolent has no positive benefit. Activism by the non-benevolent raises welfare if the following is true

$$(31) \quad (1-\delta_1)\delta_2 \beta k \Delta\theta \geq (1-\delta_1)\alpha(1-k)\Delta\theta$$

$$\text{or,} \quad \delta_2 > \alpha(1-k)/\beta k.$$

Condition (31) can be satisfied for high values of  $k$ ;  $k \geq \alpha/(\beta-\alpha)$ . But these conditions imply the precise conditions (26 and 29) under which activism by the benevolent is welfare improving. Suppose we are in a situation where the non-benevolent S1 chooses the activist technology and the benevolent does not do so. Will principal induce activism by the benevolent? Note that cost of inducing activism by the benevolent is much higher since the non-benevolent S1 will also be paid  $a(\Delta\theta, \Delta\theta) = x \Delta\theta$  whenever the latter meets a benevolent S2. It can be verified that the principal will induce activism by the benevolent iff

$$(32) \quad \delta_1 \alpha (1-k) \Delta \theta \leq \delta_1 \beta (k \Delta \theta - \alpha k \Delta \theta / \beta) - (1-\delta_1) \delta_2 (\alpha k / \beta) \Delta \theta$$

$$\text{or,} \quad k \geq \delta_1 \alpha / (\delta_1 \beta - (1-\delta_1) \delta_2 \alpha).$$

Since  $k \geq \alpha / (\beta - \alpha)$ ; the above condition is satisfied whenever

$$(33) \quad \delta_1 \geq \delta_2 / (1 + \delta_2).$$

Hence if  $\delta_1$  is not very low, we are likely to see excessive activism in this case. The other case, referred to at the beginning, can be analyzed in a similar fashion.

(ii) Since  $\delta_1$  and  $\delta_2$  are low, optimal separation of powers contract will be of type M1 (since we are focusing on large values of  $k$ ,  $k \geq 1/2$ ). Consider  $\alpha > \beta k$  and  $A = 0$  such that  $x = \alpha k / \beta$ . If benevolent S1 chooses the activist technology welfare goes up by  $\beta(k - \alpha k / \beta) \Delta \theta - \alpha(1 - k) \Delta \theta$ . Hence, limited activism can raise welfare. But non-benevolent S1 will also choose to be activist. Since  $\delta_2$  is low, such activism is unlikely to raise welfare. The change in welfare resulting from activism by the non-benevolent is given by  $\beta(k - \alpha k / \beta) \delta_2 \Delta \theta - \alpha(1 - k) \Delta \theta$ . Hence overall welfare will be lower iff

$$(34) \quad k(\beta - \alpha) [\delta_1 + (1 - \delta_1) \delta_2] \leq \alpha(1 - k)$$

This will be true for a range of values of  $\delta_1$  and  $\delta_2$ . For example, if  $\alpha = 0.3$ ,  $\beta = 0.6$  and  $k = 2/3$ , the above inequality will be true for any  $\delta_1, \delta_2 \leq 0.2$ .  $\square$

As mentioned earlier following the discussion of Lemma 2, the cost of inducing activism can affect the principle of collusion-proofness. This has no immediate implication for the welfare properties of activism; but given the importance of this principle, we note the deviation as the following proposition.

**Proposition 7:** *In the presence of activism it might be optimal to allow collusion between S1 and the firm even when  $\delta_1 < 1 - k$ .*

**Proof:** Consider a situation where limited activism is optimal but the excessive activism leads to lower welfare than the strict separation case. If the principal is unable prevent activism by the non-benevolent S1, he would choose to have no activism at all.

Let  $\alpha = 0.2$ ,  $\beta = 0.6$ ,  $\delta_2 = 0.6$ ,  $k = 1/2$  and  $A = 0$  and  $\delta_1 < 1/2$ . Clearly, the optimal contract will stipulate  $s_2 = 0$ . Suppose, the principal chooses to have incentive contracts for S1 so that  $s_1(\Delta \theta) = k \Delta \theta$ . It can be verified that even with  $A = 0$ , limited activism will raise

welfare compared to the separation case. From the incentive constraint of the benevolent (20),  $x = \alpha k / \beta$ . The corresponding incentive constraint for the non-benevolent S1 is also satisfied and both will choose to be activists. The optimal mechanism will be of type M2'. Compared to the strict separation case with mechanism M1', welfare will be lower iff

$$(35) \quad \alpha(1-k)\Delta\theta > \delta_1(1-\delta_2)\beta\Delta\theta - \alpha k\Delta\theta(\delta_1 + (1-\delta_1)\delta_2)$$

It can be checked this inequality is satisfied. Hence there would be no activism.

However, consider an alternative mechanism where  $s_1 = 0$ . This would obviously lead to some welfare loss as the non-benevolent S1 will collude with the firm. Now, benevolent S1 can be induced to choose the activist technology for  $x = 0$ . The non-benevolent S1 will not choose the activist technology as  $\delta_2$  is high and  $x = 0$ . So we can have limited activism. The benefit of activism will outweigh the loss due to collusion if the following condition holds.

$$(36) \quad \delta_1 [\rho\Delta\theta + (1-\delta_2)\beta\Delta\theta] > \zeta(1-k)\Delta\theta$$

Suppose  $\rho = 0.6$  and  $\zeta = 0.8$ , then this is satisfied for  $\delta_1 > 0.47$ .

Notice that even when  $\delta_1 < 0.5$ , it is optimal to allow collusion between the firm and non-benevolent S1.  $\square$

## 5. Discussion and Extensions

As mentioned in the introduction, we have chosen a regulatory framework to discuss how supervisors can exercise some power and engage in rent seeking. Supervisor's role is restricted to gathering and reporting information. Their ability to manipulate this information is the source of their power and rent. This framework has been used extensively to study issues related to collusion and capture in many regulatory settings. However, it can be argued that in some cases institutions (judiciary or legislature) are decision making bodies rather than information acquisition agencies. But since our main objective is to highlight the link between the corruptibility of an institution and the optimality of the consequent social outcome, there is no real loss of realism in our model. Reports by the supervisors uniquely define the social outcome. A corrupt institution would imply suboptimal outcome. Activism in the sense of acquisition and reporting of information about this institution prevents the suboptimal outcome.

## 5.1 Over-riding Authority

It can also be argued that the present model fails to capture the basic asymmetry that exists between various branches of constitutional governance. Some of these differences were mentioned in the introduction but the model treats both supervisors in a similar way except that S1 has the privilege to report on S2's signal. By common perception, it would appear that judicial activism is associated with power of the judiciary to over-ride the decisions of the executive and the legislature. This over-riding feature of judicial activism is not explicitly addressed in our model. However, this issue can be addressed in our model without any significant change to the results.

Suppose the principal commits to a contract such that the transfers to the firm and S2 depend only on S1's report  $z$ . This means that S2's report is over-ridden whenever the S1 chooses to be an activist. This feature is already reflected in the optimal contract:  $s_2(z = \Delta\theta) = 0$  and  $t = t(r_1, z)$  whenever  $z = \Delta\theta$ . The second supervisor's report matters only when  $z = \phi$ . If we interpret a null report as no-report then the over-riding nature of the activist report does not add anything to our model. The underlying information structure in our model allows only two types of reports;  $\phi$  or  $\Delta\theta$ . Given the hard nature of information, it does not make sense to have a situation where  $z = \phi$  will over-ride  $r_2 = \Delta\theta$ .

Consider a slightly modified version of the model. The second supervisor observes  $\theta_2$  with certainty but information is manipulable so that  $r_2 \in \{0, \Delta\theta\}$ . This means that the second supervisor (non-benevolent) can collude with the firm whenever  $\theta_2 = \Delta\theta$  and report  $r_2 = 0$ .<sup>22</sup> Assume that the activist supervisor also observes  $\theta_2$  (though there is some information loss in observing  $\theta_1$ ). In this setting the over-riding nature of the activist's report can have significant implications for the non-benevolent activists. The non-benevolent activist will collude with the firm rather than the second supervisor. Even when the second supervisor is benevolent, there will be scope for collusion between the non-benevolent activist and the firm. *With over-riding authority, the expected rent of the non-benevolent activist will be higher.*

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<sup>22</sup> On the other hand, the supervisor can threaten to report  $r_2 = \Delta\theta$  and engage in extortion whenever  $\theta_2 = 0$ . For simplicity, we are ignoring such cases.

For more general and imperfect information technology, the sole dependence of public decision on the activist's report may not have clear welfare implications for the benevolent supervisor; but it will certainly lead to a shift in bargaining power in favor of the non-benevolent supervisor. Our results concerning excessive activism and the associated welfare loss are likely to be reinforced in such a setting.

## 5.2 Accountability

The various branches of the constitution also differ in terms of the incentive structures they face. Members of the legislature are accountable to the electorate for their actions and seek re-election after a fixed length of time. Re-election possibilities determine their incentive to choose the optimal action. Members of the judiciary do not face such re-election and the desire to leave a legacy or reputation will probably act as an incentive for them. Recently, Maskin and Tirole (2004) have examined the optimal allocation of decision making powers in such a context. They show that when citizens have limited self-belief about the optimal action, politicians would tend to pander: choose the popular rather the optimal action. On the other hand, judges would not have to pander but would choose actions according to the legacy motive. The legacy motive can work either ways; a congruent judge would choose the socially optimal action but a non-congruent judge would choose the sub-optimal action.

Our model is quite different from theirs though some insights are common. We use a static regulatory framework whereas they use a dynamic political economy framework. Their main objective is to study the separation of powers and our objective is to look at activism when there is separation of powers. The optimality of judicial activism (or judicial decision making) depends crucially on the degree to which the private interests of these officials are aligned with society's interests and the extent to which the electoral interests of politicians lead them to choose sub-optimal actions. This is similar to our observation that the benefits of activism depend on the fraction of benevolent supervisors ( $\delta_1, \delta_2$ ) and the social loss associated with the second supervisor's decision making ( $k\Delta\theta$ ). Maskin and Tirole argue that some decisions should be taken by the judges to protect the interests of the minority; judicial activism is also justified in many instances as a safeguard against the tyranny of the majority.

### 5.3 Returns to activism and occupational choice

The previous analysis makes it clear that the welfare properties of activism crucially depend on the degree of benevolence ( $\delta_1$  and  $\delta_2$ ). However, the degree of benevolence may not be entirely exogenous; it can be affected by the nature and extent of activism. Recall that activism affects the rents accruing to the supervisors in various ways. If we assume that benevolence in any organization is determined by the presence of benevolent agents in the pool of applicants seeking to enter the organization, the composition of this pool can be affected by activism. While a detailed investigation would require us to look at the occupational choice of agents and possibly the selection procedures and is beyond the scope of the current paper, the following discussion aims at providing a few insights.

Let the fraction of benevolent individuals in the common pool of potential applicants be  $\delta$ . The payoff from joining the bureaucracy (S1 or S2) is given by  $V_j$ ,  $j=1,2$ . The payoff  $V_0$  from not joining the bureaucracy is distributed across some interval. An individual with  $V_j > V_i$ ,  $i \neq j$  and  $V_j > 0$  will join  $S_j$ . We can write  $V_j$  as  $V_j = y_j + w_j + s_j + b_j$ , where  $y_j$  refers to intrinsic benefit from joining  $S_j$  and  $w_j$ ,  $s_j$  and  $b_j$  refer to the expected wage, transfers and bribes in  $S_j$ . The term  $y_j$  differs across individuals and its distribution will determine the allocation between S1 and S2. In addition,  $V$  can also include the legacy motive  $A$  which is zero for the non-benevolent but positive for the benevolent.

Suppose  $\delta$  is high so that there is no need for any high powered incentives and  $w > 0$  and  $s = 0$ . In this case, since collusion is possible between the non-benevolent supervisors and the firm,  $b_j > 0$ . Now, activism by the benevolent S1 would leave the benevolent S2's payoff unchanged but it would lead to a fall in the non-benevolent S2's payoff. This means that there will be a fall in the number of applicants for S2 leading to a rise in  $\delta_2$ . Activism by the non-benevolent S1 would also lead to reduction in the number of non-benevolent applicants but by a smaller margin. On the other hand the number of non-benevolent applicants for S1 is likely to go up. Depending on the distribution of  $A$ , benevolent applicants for S1 can also go up.

Alternatively, if  $\delta$  is low, we are likely to see high powered incentives to deter collusion and  $w = 0$  and  $s = k\Delta\theta$ . In this case, limited activism would reduce the expected the incentive payments to both benevolent and non-benevolent S2. Hence it is unlikely to affect  $\delta_2$ . Activism by the non-benevolent S1 would also reduce incentive payments to both types of S2, but the reduction is less for the non-benevolent because of collusion between the supervisors. Hence  $\delta_2$  is likely to be lower. A similar rise in non-benevolence also holds for S1, as the payoff to the non-benevolent S1 is higher now. If the benevolent S1's incentive constraint is binding, their payoff remains same. *Overall, we are likely to see a fall in both  $\delta_1$  and  $\delta_2$ .*

Recall that activism is unlikely to be optimal if  $\delta_1$  is low because the benefit of activism by the benevolent is likely to be less than the loss due to activism by the non-benevolent. This suggests that we could begin with a situation where activism is optimal (for suitable values of  $k$ ,  $\delta_2$  and  $\delta_1$ ), but the rent redistribution following activism eventually leads to a low  $\delta_1$  rendering activism suboptimal. This reinforces our earlier point that activism in a limited form might have been good for the society, but once we allow it to become an institution and a source of rents the long-run consequences are likely to be detrimental to the interest of the society.

#### 5.4 Activism by Multiple Institutions

We can consider an extension to the symmetric case with both S1 and S2 having access to the activist technology and privileges. In the symmetric case one can see how *activism by one institution affects the incentives of other institutions and can lead to the spread of activist policy*. However, we shall not pursue a formal treatment of the symmetric case.

So far as limited activism is concerned, this does not alter the basic analysis too much. However, excessive activism is more likely when both the institutions have access to activist technology and privileges. Notice that condition the left hand side of incentive constraint (21) is likely to be smaller for the non-benevolent S1 when S2 is activist. Realization of signal  $\sigma = \Delta\theta$  does not necessarily fetch  $k\Delta\theta$ . If S2 is non-benevolent, S1 gets  $k\Delta\theta$  with probability  $(1-\beta)$  and  $k\Delta\theta/2$  (assuming  $x = 0$ ) with probability  $\beta$ . If S2 is benevolent, S1 gets nothing with probability  $\beta$ . Hence in switching from  $\zeta$ - technology to



$\rho$ -technology, its loss is also lower. In some sense, activism by S2 induces the non-benevolent S1 to be an activist as well.

For example, let  $\zeta = 0.8$ ,  $\rho = 0.7$ ,  $\beta = 0.5$ . Assume that 16-17 hold and  $s > 0$  and S2's incentive constraint (20) is satisfied with  $x = 0$ . If S2 is non-activist, non-benevolent S1 chooses to be activist when  $\delta_2 < 1/2$ . When faced with a completely activist S2 or only benevolent activist S2, the non-benevolent S1 will choose activist technology if  $\delta_2 < 2/3$ . Whenever,  $1/2 < \delta_2 < 2/3$ , non-benevolent S1 will choose activist technology only when benevolent S2 also chooses to be activist. Since excessive activism is mostly welfare reducing, this introduces a trade off between *encouraging limited activism by more than one institutions and avoiding excessive activism*.

To see this trade off more clearly, suppose  $\delta_2 = 0.6$  and  $k = 1/3$ . For this set of parameter values, the benevolent supervisors (both S1 and S2) will always choose the activist technology irrespective of whether other non-benevolent supervisors choose to be activist or not. Now consider the non-benevolent S1's choice of technology. Following the discussion of the previous paragraph, for  $\delta_1 < 2/3$ , non-benevolent S1 will also choose to be activist. Hence we have an excessive activism outcome. On the other hand, by withdrawing privileges for S2 (or S1 if  $\delta_1 > 1/2$ ), we have an outcome where only the benevolent S1 will choose the activist technology.

Suppose  $\delta_1$  is low, say  $\delta_1 = 0.4$ . This means that in the symmetric privileges case, both S1 and S2 are completely (benevolent as well as non-benevolent) activists. By withdrawing S2's privileges, activism is confined to only benevolent S1. The principal loses the benefit from benevolent S2's activism but gains in terms preventing ungainly activism by non-benevolent S1 and S2. Let  $W^S$  and  $W^{AS}$  refer to the welfare under symmetric (complete excessive activism) and asymmetric (limited activism by benevolent S1) cases respectively. It can be shown that  $W^{AS} > W^S$ .<sup>23</sup> Hence, the principal is better off withdrawing S2's privileges. It is interesting to note that even though S1 is less likely to be benevolent compared to S2 ( $\delta_1 < \delta_2$ ), the principal would choose to withdraw S2's privileges rather than S1's privileges.

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<sup>23</sup>  $W^{AS} - W^S = \delta_1(\zeta - \rho)v\beta k\Delta\theta + v(\zeta - \rho)\Delta\theta(1 - k) + (1 - \delta_1)(\zeta - \rho)v\Delta\theta(1 - k) - v\rho\beta k\Delta\theta(\delta_2 + (1 - \delta_2)\delta_1) - (1 - \delta_1)\delta_2 v\rho\beta k\Delta\theta$ .

## 7. Conclusion

Our analysis shows that activism can be good but it can also spread itself and result in welfare loss. Given the specialized nature of our model, the propositions have to be viewed with some reservations. But the general message can be applied to various situations. In the light of our discussion (section 2) of judicial activism, it can be said that the failure of other institutions like the Parliament and the government machinery has led to activist policy by the judiciary. In that sense, the role of judiciary has been laudable. However, this has led to a general perception that judiciary is supposed to play such an active role on a regular basis. Rather than focusing on how to improve working of other institutions, focus has shifted towards finding ways to enlarge the scope of judicial activism. This is a worrying trend and at some point will undermine the basic separation of powers. Moreover, there is no reason to believe that judiciary is and will be seeking to maximize social welfare. This could lead to the type of excessive activism analyzed in our paper. Judicial activism can encourage other institutions to be activist as well. Political interference in the judicial and executive process is a case of such activism in this context.

It would be interesting to take a broader perspective and consider different kinds of activism. This would include study of various activist groups and non-governmental organizations<sup>24</sup>. There has been a significant increase in the visible presence of these groups. In many instances activist groups are not merely safeguarding public interests; they also seem to be engaging in direct provision of local public goods. The objectives of these groups may not always be aligned with broader social interests. The trade offs need to be examined carefully in these cases.

As the preceding section shows our modeling attempt is only a first step. Issues related to detailed institutional features and dynamics have not been addressed. We hope to pursue some of these issues in future.

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<sup>24</sup> Besley and Ghatak (2001) have addressed the issue of NGOs in a recent work, though their focus is on the private-public nature of the relationship.

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## Appendix:

**Lemma 1:** It is clear that the claim is true for (20). For the non-benevolent S1, note that whenever (17) holds it is also binding. The amount of rent to be shared is always  $k\Delta\theta$ . Given out bargaining rules about two-way collusion between the supervisors or the three way collusion, S2's expected share in the rent is same.

**Lemma 2:** (i) Consider the no-activism case. If collusion is allowed in equilibrium,  $s_2 = 0$ . Conditional on the supervisor receiving a favorable signal, expected loss from allowing

collusion is  $(1-\delta_2)\Delta\theta$ . From the no-collusion constraint (16), preventing collusion would require  $s_2(\Delta\theta) = k\Delta\theta$  and  $s_2(\varphi) = 0$ . Hence, it is optimal to prevent collusion iff  $\delta_2 \leq (1-k)$ .

(ii) Now suppose, optimal policy entails activism by the benevolent S1. The principal gets a true report whenever  $z = \Delta\theta$  or S2 is benevolent. Depending on the value of  $A$ ,  $a(\Delta\theta) \geq 0$  to satisfy the incentive constraint (20), but this cost does not depend on constraint (16). Suppose, (16) does not hold. Conditional on  $\sigma_2 = \Delta\theta$ , collusion between the firm and non-benevolent S2 takes place with probability  $(1-\delta_1) + \delta_1(1-\beta)$ . Since the loss to the principal from such collusion is  $\Delta\theta$ , the total expected loss from allowing collusion will be

$$(37) \quad (1-\delta_2)\Delta\theta [(1-\delta_1) + \delta_1(1-\beta)] = (1-\delta_2)\Delta\theta (1-\delta_1\beta)$$

On the other hand, from (16) it is clear that preventing collusion would require  $s_2(\Delta\theta) = k\Delta\theta$ . However, with benevolent activist S1, the principal can save on this transfer by choosing the following transfers to the supervisors.

$$a(\Delta\theta) = x\Delta\theta, s_2(\Delta\theta, \Delta\theta) = 0 \text{ and } s_2(\varphi, \Delta\theta) = k\Delta\theta \text{ and } s_2(\varphi; \varphi) = 0$$

Note that  $x$  can be chosen in such a way that the benevolent activist's participation constraint is satisfied. This is exactly same as the transfer in the case where collusion between the firm and S2 is allowed. Hence the cost of preventing collusion is given by

$$(38) \quad (1-\delta_1)k\Delta\theta + \delta_1(1-\beta)k\Delta\theta = k\Delta\theta(1-\delta_1\beta).$$

Hence collusion would be prevented iff  $\delta_2 \leq 1-k$ .

(iii) Exactly similar arguments hold for the case when the principal induces activism by the non-benevolent S1. The principal can receive the true report, conditional on  $\sigma_2 = \Delta\theta$ , whenever  $z = \Delta\theta$  and  $a(\Delta\theta) \geq k\Delta\theta$ . Hence collusion between the firm and S2 lead to a loss of  $(1-\beta)(1-\delta_2)\Delta\theta$ . On the other hand, prevention of collusion in this state costs  $(1-\beta)k\Delta\theta$ . Likewise, when  $a(\Delta\theta) < k\Delta\theta$ , non-benevolent S2 will not reveal the true  $z$  and would collude with non-benevolent S2. Hence the loss from allowing collusion would be  $(1-\delta_2)\Delta\theta$  and cost of preventing collusion is  $k\Delta\theta$ . Hence irrespective of whether collusion between the supervisors is allowed or not, it would be optimal to prevent collusion between the firm and the supervisor iff  $\delta_2 \leq 1-k$ .  $\square$

**Lemma 3:** Given the previous lemma and the fact that null reports would not receive positive transfers, optimal transfers to the supervisors would be given by the following.

$$(38) \quad s_2(\Delta\theta, \Delta\theta) = k'\Delta\theta, s_2(\varphi, \Delta\theta) = k\Delta\theta, s_2(\varphi, \varphi) = 0, a(\Delta\theta) = x \Delta\theta.$$

Following our bargaining rule, non-benevolent S1's payoff from collusion is  $\frac{1}{2} [x + (k - k')\Delta\theta]$ . Collusion can be prevented if  $(k - k')\Delta\theta - x \leq 0$ . The total transfer to S1 and S2 is exactly  $k\Delta\theta$ . Hence, the principal does not gain anything by preventing collusion between the non-benevolent activist S1 and non-benevolent S2. Collusion in this case simply results in a redistribution of the transfer  $k\Delta\theta$ . On the other hand, the principal can always increase welfare by lowering  $k'$  and  $x$ , whenever activist S1 or S2 is benevolent.  $\square$

**Lemma 4:** Follows from the incentive constraints (20) and (21), Lemma (2) and Lemma (3). In the activist case, (20) holds as an equality and writing  $a(\Delta\theta)$  as  $x \Delta\theta$ , it can be checked that

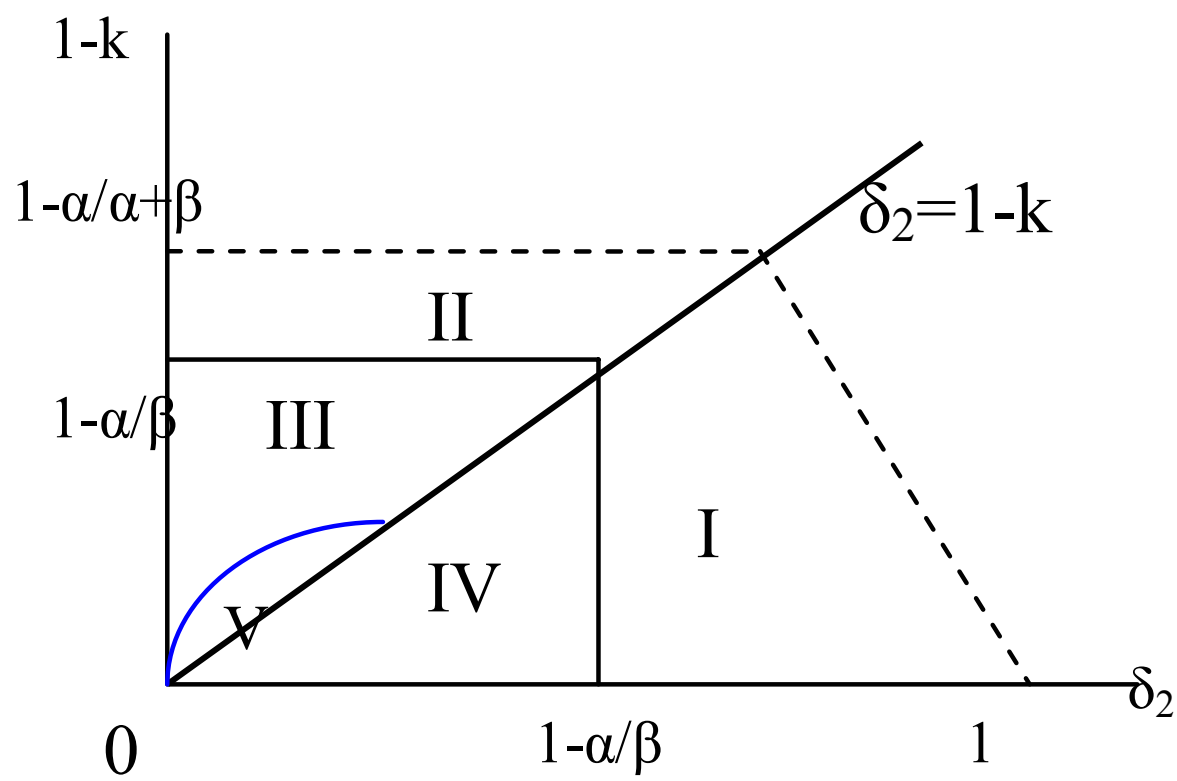
$$(39) \quad x = \alpha k / \beta - A / \Delta\theta.$$

For the non-benevolent S1, expected rent from activism is given by

$$\beta\delta_2 x + \beta(x+k)/2 - \delta_2\beta(x+k)/2$$

Hence (21) holds iff

$$(40) \quad x \geq k(2\alpha - \beta(1-\delta_2)) / \beta(1+\delta_2) \quad \square$$



When is activism likely to be optimal?

Figure 1